

Amendments to the Claims

1-23. (canceled)

24. (new) A system, comprising:

a distributor unit that distributes a plurality of packets and security association information associated with the plurality of packets according to a distribution scheme; and

a plurality of security processing engines, coupled to the distributor unit, that perform authentication and cryptographic functions,

wherein the plurality of security processing engines receive at least a portion of the security association information associated with the packets, and wherein the plurality of security processing engines process the plurality of packets in parallel.

25. (new) The system of claim 24, wherein the plurality of packets are buffered prior to being processed by the plurality of security processing engines.

26. (new) The system of claim 24, further comprising a classification module that determines security association information associated with a plurality of packets, wherein the classification module is configured to provide at least a portion of the security information associated with the packets to the distributor unit.

27. (new) The system of claim 24, wherein the distributor unit and the plurality of security processing engines are on the same chip.

28. (new) The system of claim 24, wherein the security association information includes a sequence number, an anti-replay window, and a lifetime of the security association.

29. (new) The system of claim 28, wherein the security association information further includes an encapsulating security payload (ESP) encryption algorithm identifier and one or more ESP encryption keys.

30. (new) The system of claim 29, wherein the security association information further includes an ESP authentication algorithm identifier and one or more ESP authentication keys.

31. (new) The system of claim 28, wherein the security association information further includes an authentication header (AH) authentication algorithm identifier and one or more AH authentication keys.

32. (new) The system of claim 28, wherein the security association information includes protocol mode information.

33. (new) The system of claim 24, wherein the distribution scheme is a round-robin distribution scheme, wherein the distributor unit selects a next available security processing engine in a round-robin manner.

34. (new) The system of claim 24, further comprising an order maintenance packet retirement unit.

35. (new) The system of claim 34, wherein the distributor unit assigns packets for processing to a next available security processing engine regardless of the order received and the order maintenance packet retirement unit outputs the processed packets such that packet order is maintained.

36. (new) The system of claim 24, wherein the system is a router.

37. (new) The system of claim 24, wherein the system is a firewall.

38. (new) The system of claim 24, wherein the system is a network communication device.

39. (new) The system of claim 24, wherein the system is a security gateway.

40. (new) The system of claim 24, wherein the system is a server.

41. (new) The system of claim 24, wherein the system is a network line card.